

USSN: 09/560,170

Attorney Docket No.: 117-P-1345US01

Remarks

Applicants thank the Examiner for extending to the undersigned attorney and applicant Levitt the courtesy of an applicant-initiated in-person interview on May 1, 2003. As required by the recent changes in MPEP §713.04 (eighth edition, revision 1), applicants have supplemented the substance of the interview in these Remarks. For ease of understanding, information relating to the interview is identified using the phrase "during the interview".

As recommended by the Examiner during the interview, claims 20 and 41 have been amended to recite topcoat stripping conditions. Claim 20 has additionally been amended to recite that the topcoat contains "at least about 15 wt. % solids", claim 41 has additionally been amended to recite that the top coat contains "about 15 to about 40 wt. % solids", and the word "polymerized" has been inserted before "topcoat" in line 3 of claims 20 and 41. Antecedent basis for these amendments to claims 20 and 41 can be found in the Written Description at, e.g., page 4, lines 30-33, page 5, lines 16-19, page 8, line 17-20, page 8, line 33 through page 9, line 1, page 10, line 39, page 11, line 18 and page 14, lines 12-14. Claim 27 has been amended to recite that the "polymerized" topcoat "when coated alone atop a vinyl composite tile" has a strippability rating of 4 or less on a 7 point scale. Antecedent basis for this amendment can be found in the Written Description at, e.g., page 12, line 4 of the Table (Run No. 1-7). Following entry of this amendment, claims 1 – 46 will be pending, with claims 1 – 19 and 28 – 38 having been withdrawn from consideration. Reconsideration of the Final Rejection is requested in view of the following remarks.

Rejection of Claims 20, 22-24, 27, 39 and 41-45 under 35 USC §103(a)

Claims 20, 22-24, 27, 39 and 41-45 were rejected under 35 USC §103(a) as being unpatentable over Published PCT Application No. WO 98/11168 (Hamrock et al.) in view of U.S. Patent No. 6,444,134 B1 (Holman et al.). The Final Rejection acknowledges that:

"Hamrock et al. do not specifically teach that the radiation curable coating (i.e., the coating corresponding to the top of the claimed invention) is water borne or that it comprises water."

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As explained during the interview, Hamrock et al. actually teaches away from available finishes that are waterborne or that comprise water. For example, Hamrock et al. say that commercially available aqueous emulsion based floor finishes:

"typically comprise a relatively low solids content (e.g., about 15 – 35%)" (see page 1, lines 13-14)

and that:

"the available finishes have been less than completely satisfactory for several reasons.

For example, when applying conventional floor finish compositions to the surface of a floor, several coating applications are typically required to obtain a finish with a suitable appearance. Each successive application of the composition must be dried before additional coatings are applied and/or before pedestrian traffic is allowed across the treated floor. The compositions are normally dried at ambient temperature and humidity in air, so that the drying time depends upon the air flow over the floor as well as the relative humidity of the air." (see page 1, lines 19-27).

These passages plainly indicate that Hamrock et al. regarded available finishes as being unsatisfactory due to their relatively low solids content and air drying requirement.

Hamrock et al. also make clear that their topcoats are based on 100% solids formulations:

"As mentioned, the second monomer(s) is added to a reaction mixture with the first monomer and polymerized to form the hard, durable, clear coatings of the invention, as is further described below. In the reaction mixture, the weight percentage of the second monomer is typically within the range from about 5 to about 90%, preferably from about 35 to about 70 wt% and more preferably from about 45 to about 65 wt%. The first monomer is present within the mixture at a concentration within the range from about 10 to about 90 wt%, preferably from about 25 to about 60 wt%, and more preferably from about 30 to about 50 wt%." (see page 14, lines 3-10).

Thus according to Hamrock et al., the first and second monomer together account for 95 to 100% of the formulation. The other major ingredients are a photoinitiator (see page 14, line 11 through page 16, line 8) and the "Other Ingredients" discussed at page 16, lines 9-24. Hamrock et al. do not recommend adding water to their formulation. As explained during the interview, a person of ordinary skill in the art of floor finishes (an "Ordinary Person") who reviewed Hamrock et al.

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would not be led to make a topcoat from available finishes that are waterborne or that comprise water.

As also explained during the interview, it can be difficult to form thin coatings from 100% solids formulations unless volatile low viscosity monomers are employed in the formulation. As also explained during the interview, these volatile low viscosity monomers can cause objectionable odor and environmental problems, especially in enclosed spaces. As also explained during the interview, if volatile low viscosity monomers are not employed, then 100% solids formulations tend to form thicker coatings that can be difficult to strip or that can have an uneven surface (and an objectionable appearance) following cure. As also explained during the interview, thicker coatings are also more expensive than thin coatings.

Resort to Holman et al. does not cure Hamrock et al.'s deficiencies. The Final Rejection asserts that:

"However, Holman et al. disclose a method of finishing floors wherein the floor may be coated with a water based finish including urethane and acrylic polymers and copolymers and crosslinking agents (Column 2, lines 1, lines 5-6 and Column 2, lines 3-5). Examples of the polymers include aliphatic urethanes, urethane/acrylic polymers and acrylic polymers and these polymers/copolymers are designed for high performance uses, where hardness, flexibility, UV resistance, chemical resistance and abrasion resistance are desired. One specific example of the urethane/acrylic copolymer is a high solids, radiation curable, water-borne formulation by the trade name of NEORAD 3709 (Column 4, lines 11-36).

"Accordingly, it would have been obvious to one having ordinary skill in the art to replace the radiation curable coating comprising a polyfunctional isocyanurate and a hydroxyalkyl acrylate, as taught by Hamrock et al., with a water based finish including urethane and acrylic polymers and copolymers and crosslinking agents given that Holman et al. specifically teach that such water-borne coatings exhibit high hardness, flexibility, UV resistance, chemical resistance and abrasion resistance."

Holman et al. describes a floor refinishing system meant to replace the sanding step that typically is required when completely removing and renewing the finish on a wood floor (see e.g., col. 1, lines 9-35). Holman et al. does this by etching the existing finish using a caustic solution (see

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e.g., col. 2, lines 30-38 and col. 3, lines 39-50), rinsing the etched surface and then applying a water-based coating composition. Holman et al. does not describe using a strippable intermediate coating under the water-based coating composition. Using such an intermediate coating could frustrate Holman et al.'s preference for a prepared surface that is:

"cleaned and sufficiently etched to facilitate the later chemical bonding (i.e., step 3) of a renewal finish." (see col. 2, lines 34-37)

As noted by the Examiner, Holman et al. says that its topcoat has "chemical resistance". Hamrock et al. also refer to the desirability of a "chemically resistant finish" in their "Background of the Invention" section (see page 2, lines 1-8). As explained during the interview, chemical resistance normally is antithetical to strippability. As also explained during the interview, an Ordinary Person who desired a strippable finish would not be motivated to substitute Holman et al.'s topcoats for Hamrock et al.'s 100 % solids formulations, since Holman et al.'s recitation of chemical resistance could cause an Ordinary Person to conclude that the substitution would provide a coating that did not have adequate strippability.

The Final rejection also asserts that:

"With regards to the limitation that the intermediate coating has a stripability rating of 6 or more on a 7 point scale and that the topcoat has a stripability of 4 on a 7 point scale, the Examiner takes the position that such limitations must be met by the coatings taught by Hamrock and Holman given that the chemical composition of these coating and that of the claimed invention are identical."

Neither Hamrock et al. nor Holman et al. actually combine the topcoat and intermediate coating recited in applicants' rejected claim 27. The above-quoted limitations are not met by any combination of coatings taught by Hamrock et al., Holman et al. or any proper combination thereof.

Applicants accordingly request withdrawal of the rejection of claims 20, 22-24, 27, 39 and 41-45 under 35 USC §103(a).

Rejection of claims 26, 40 and 46 under 35 USC §103

Claims 26, 40 and 46 were rejected under 35 USC §103(a) as being unpatentable over Hamrock et al. in view of Holman et al. and U.S. Patent No. 5,571,570 (Lake). Hamrock et al.

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and Holman et al. are discussed above. Lake involves solvent-borne UV curable coatings (see, e.g., column 5, lines 3-18) for plastic and metal parts (see, e.g., column 2, lines 34-38). Lake says nothing regarding stripping such coatings. Strippability would not ordinarily be a desirable trait for durable coatings applied to plastic and metal parts (see, e.g., column 2, lines 39-45). Lake also says that its coatings have "Chemical Resistance" (see the entries in Table 1, Table 2 and Table 3). An Ordinary Person who reviewed Lake would conclude that Lake's coatings would not be strippable and would not be suitable for use on floors.

Lake also says that separate application of a topcoat and a curing agent is disadvantageous (see, e.g., column 1, lines 15-17). This in effect teaches away from the use of multiple-layer coatings and the application of both an intermediate coat and a topcoat.

An Ordinary Person would not combine Hamrock et al., Holman et al. and Lake as outlined in the Final Rejection. Applicants accordingly request withdrawal of the rejection of claims 26, 40 and 46 under 35 USC §103(a).

Rejection of claim 21 under 35 USC §103

Claim 21 was rejected under 35 USC §103(a) as being unpatentable over Hamrock et al. in view of Holman et al. and Published PCT Application No. WO 94/22965 (Koreltz et al.). Hamrock et al. and Holman et al. are discussed above. Koreltz et al. describe compositions for stripping "standard floor finishes and/or greasy residues from hard surfaces such as floors" (see, e.g., page 1, lines 5-8 and page 3, line 35 through page 4, line 2). Koreltz et al. does not describe stripping agents for polymerizable topcoats that are less strippable than applicants' recited intermediate coating. Koreltz et al.'s working examples show that "Citation" urethane sealant/finish from Buckeye International, Inc. can be removed using Koreltz et al.'s strippers (see, e.g., page 12, lines 12-18). Citation sealant/finish is relatively easy to strip, and can be used as an intermediate coating in applicants' invention (see, e.g., page 5, line 3). An Ordinary Person who reviewed Koreltz et al. would not have any proper basis for concluding that Koreltz et al.'s stripping agents could be used to remove polymerizable topcoats that are less strippable than applicants' recited intermediate coating. Applicants accordingly request withdrawal of the rejection of claim 21 under 35 USC §103(a).

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Rejection of claim 25 under 35 USC §103

Claim 25 was rejected under 35 USC §103(a) as being unpatentable over Hamrock et al. in view of Holman et al. and U.S. Patent No. 6,399,689 B1 (Scarlette et al.). Hamrock et al. and Holman et al. are discussed above. Scarlette et al. describe abrasion-resistant coatings containing aluminum oxide grain produced by a sol gel process (see, e.g., column 1, lines 42-48). Scarlette et al.'s Example 1 coating is sufficiently chemically resistant to withstand a 10 minute exposure to acetone (see, e.g., column 12, lines 14-28). An Ordinary Person who reviewed Scarlette et al. would conclude that its coatings are sufficiently chemically resistant that they would be unlikely to be strippable, and would not combine Hamrock et al., Holman et al. and Scarlette et al. as outlined in the Final Rejection. Applicants accordingly request withdrawal of the rejection of claim 25 under 35 USC §103(a).

Conclusion

Hamrock et al. does not teach and in effect teaches away from topcoats made using available finishes that are waterborne or that comprise water. Holman et al. describes a floor refinishing system that is not said to be strippable (thus failing to provide a proper basis for combination with Hamrock et al.) and that requires a clean, etched surface under its topcoat (thus mitigating against use of an intermediate coating). Lake describes durable, chemically-resistant coatings for plastic and metal parts, not strippable floor finishes. Koreltz et al. describes strippers for conventional finishes of the type used by applicants as an intermediate coating, not strippers for topcoats that are less strippable than the intermediate coating. Scarlette et al. describes acetone-resistant coatings. An Ordinary Person would not combine these references to arrive at applicants' claimed invention.

Passage of the application to the issue branch is respectfully requested. The Examiner is encouraged to telephone the undersigned attorney if there any questions regarding this application or any suggested further amendments.

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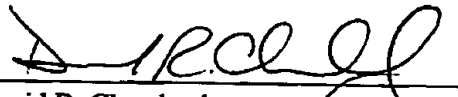
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Respectfully submitted on behalf of
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May 16, 2003

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